

1 ABSTRACT OF THE DISCLOSURE

2 In one aspect, the invention includes a method of forming a
3 roughened layer of platinum, comprising: a) providing a substrate within
4 a reaction chamber; b) flowing an oxidizing gas into the reaction
5 chamber; c) flowing a platinum precursor into the reaction chamber and
6 depositing platinum from the platinum precursor over the substrate in
7 the presence of the oxidizing gas; and d) maintaining a temperature
8 within the reaction chamber at from about 0°C to less than 300°C
9 during the depositing. In another aspect, the invention includes a
10 platinum-containing material, comprising: a) a substrate; and b) a
11 roughened platinum layer over the substrate, the roughened platinum
12 layer having a continuous surface characterized by columnar pedestals
13 having heights greater than or equal to about one-third of a total
14 thickness of the platinum layer.

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